Groundwater Recharge Volume (GRV) Calculations

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Groundwater Recharge Volume (GRV) – Sub Catchment Post # 1

Source: Connecticut Stormwater Quality Manual 2004, Appendix B

$GRV = [(D)(A)(I)]/12$

D = Depth of Runoff to be recharged (inches), Table 7-4
A = Site Area (ft^2)
I = Post Development site imperviousness (decimal) for new development or net increase in site imperviousness for re-development

$GRV = [(.1\ inch)(1,305\ sf)(.95)]/12\text{-in/ft} = 10.3\ ft^3$

Groundwater Recharge Volume (GRV) = 10.3 ft^3

Total Storage Volume of the detention areas = 213 ft^3

Total Storage Volume, 213 ft^3 > Groundwater Recharge Volume, 10.3 ft^3

Groundwater Recharge Volume (GRV) – Sub Catchment Post # 1a

$GRV = [(D)(A)(I)]/12$

D = Depth of Runoff to be recharged (inches), Table 7-4
A = Site Area (ft^2)
I = Post Development site imperviousness (decimal) for new development or net increase in site imperviousness for re-development

$GRV = [(.1\ inch)(6,090\ sf)(.456)]/12\text{-in/ft} = 23.1\ ft^3$

Groundwater Recharge Volume (GRV) = 23.1 ft^3

Total Storage Volume of the detention areas = 247 ft^3

Total Storage Volume, 247 ft^3 > Groundwater Recharge Volume, 23.1 ft^3

Groundwater Recharge Volume (GRV) – Lot # 2

$GRV = [(D)(A)(I)]/12$

D = Depth of Runoff to be recharged (inches), Table 7-4
A = Site Area (ft^2)
I = Post Development site imperviousness (decimal) for new development or net increase in site imperviousness for re-development

$GRV = [(.1\ inch)(8,008\ sf)(.4956)]/12\text{-in/ft} = 33.1\ ft^3$

Groundwater Recharge Volume (GRV) = 33.1 ft^3

Total Storage Volume of the detention areas = 360 ft^3

Total Storage Volume, 360 ft^3 > Groundwater Recharge Volume, 33.1 ft^3